

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-25. (Cancelled).

26. (New) In a wireless network system comprising a wireless unit, a first sub-network including a plurality of access points and a second sub-network including at least a second access point, a method comprising:

receiving data packets by the wireless unit, each of the data packets originating from one of the plurality of access points of the first sub-network and is transmitted to the wireless unit via a first access point of the plurality of access points in communication with the wireless unit, each data packet including a media access control (MAC) address and a corresponding network protocol address for an access point from which that data packet originated;

storing the MAC address and the network protocol address by the wireless unit;

receiving information from a second access point by the wireless unit; and

based on the information, determining by the wireless unit that the second access point is part of the second sub-network prior to the wireless unit associating with the second access point.

27. (New) The method of claim 26, wherein the information received by the wireless unit from the second access point is a beacon including a MAC address of the second access point.

28. (New) The method of claim 26, wherein each data packet received by the wireless unit further comprises a subnet mask pertaining to the first sub-network.

29. (New) The method of claim 26 further comprising releasing a current network protocol address of the wireless unit for the first sub-network.

30. (New) The method of claim 29 further comprising obtaining a new network protocol address of the wireless unit for the second sub-network.

31. (New) The method of claim 26, wherein prior to receiving the data packets, the method further comprising:

transmitting the data packets as multicast packets from the plurality of access points forming the first sub-network; and
transmitting of the multicast packets by the first access point to the wireless unit.

32. (New) The method of claim 26 further comprising:
associating with the second access point by the wireless unit for communicating with the second sub-network;

sending a request for a new network protocol address by the wireless unit, the new network protocol address differing from a current network protocol address used by the wireless unit for the first sub-network; and

receiving the new network protocol address by the wireless unit from the second sub-network via the second access point.

33. (New) The wireless unit of claim 26, wherein prior to receiving the data packets, the method further comprising:

programming the wireless unit to roam freely across sub-networks so that the wireless unit associates with the second access point of the second sub-network upon determining that a signal quality from the second access point is superior to signal quality of communications from the first access point.

34. (New) The wireless unit of claim 26, wherein prior to receiving the data packets, the method further comprising:

programming the wireless unit to maintain communications with a current sub-network being the first sub-network unless a signal quality of communications with the second access

point of the second sub-network substantially exceeds a signal quality of communications with the first access point of the first sub-network by a predetermined factor.

35. (New) The wireless unit of claim 34, wherein the wireless unit maintains communications with the first sub-network if the signal quality of communications with the first access point is greater than 0.7 times the signal quality of communications with the second access point.

36. (New) The wireless unit of claim 26, wherein prior to receiving the data packets, the method further comprising:

programming the wireless unit to always maintain communications with a current sub-network being the first sub-network and, as a result, avoiding association with the second access point of the second sub-network.

37. (New) A wireless unit for communicating with a wired backbone network including a first sub-network and a second sub-network, comprising:

a wireless transceiver;

a memory to store a media access control (MAC) address and a corresponding network protocol address for multiple access points of the first sub-network being information recovered from data packets received by the wireless transceiver; and

a logic circuit to receive information including a MAC address of a first access point received by the wireless transceiver, the logic unit being able to determine whether the first access point is part of the second sub-network prior to the wireless unit associating with the first access point.

38. (New) The wireless unit of claim 37, wherein the memory further stores a current network protocol address of a second access point of the first sub-network used by the wireless unit for communications with the first sub-network.

39. (New) The wireless unit of claim 37, wherein the logic unit determines whether the first access point is part of the second sub-network prior to the wireless unit associating with the first access point through analysis of the MAC addresses stored in the memory.

40. (New) The wireless unit of claim 38, wherein the logic unit is further adapted to transmit a request for a new network protocol address if the logic circuit determines that the first access point is part of the second sub-network and associates with the first access point.

41. (New) The wireless unit of claim 40, wherein the logic circuit is adapted to transmit a request to release the current network protocol address prior to transmission of the request for the new network protocol address.

42. (New) The wireless unit of claim 38 using the current network protocol address if the logic unit determines that the first access point is part of the first sub-network prior to the wireless unit associating with the first access point.

43. (New) A wireless network system, comprising:
a first sub-network including at least a first access point;
a second sub-network including at least a second access point, the second sub-network in communication with the first sub-network over a link; and
a wireless unit currently in communication with the first access point of the first sub-network, the wireless unit comprises
a wireless transceiver,
a memory to store a media access control (MAC) address and a corresponding network protocol address for access points of the first sub-network recovered from data packets received by the wireless transceiver, and
a logic circuit to receive information includes a MAC address of the second access point via the wireless transceiver, the logic unit comparing the MAC address of the second access point with stored MAC addresses and determining that the second access point is part of the second sub-network prior to the wireless unit associating with the second access point.

44. (New) The wireless network system of claim 43, wherein the information received by the logic circuit of the wireless network includes a beacon that comprises the MAC address of the second access point.

45. (New) The wireless network system of claim 43, wherein the memory of the wireless unit further comprises a subnet mask corresponding to the MAC address and network protocol address of each access point of the first sub-network.

46. (New) In a wireless network system comprising a wireless unit, a first sub-network including a plurality of access points and a second sub-network including at least a second access point, a method comprising:

receiving multicast data packets by the wireless unit, each of the data packets originating from a separate access point of the plurality of access points of the first sub-network and including a media access control (MAC) address and a corresponding network protocol address for an access point;

storing the MAC address and the network protocol address by the wireless unit; and

upon receiving a beacon from a second access point by the wireless unit, determining by the wireless unit whether the second access point is part of the second sub-network prior to the wireless unit associating with the second access point by comparing a MAC address of the second access point with MAC addresses stored by the wireless unit.